

APPENDIX B



```
%{
/*****
**
*
*   Copyright 1996, 1997, 1998 - A-LIFE Medical, Inc. - All Rights
Reserved.
*
*   Program: LifeCode Medical Coding System
*
*   File: c_tagger.lex
*
*   Description:
*       This file defines the CPT tagger of the diagnosis sections.
*
**
*****/

#include <iostream.h>
#include "keys.h"

#ifdef LEXER
#include <strstream.h>
#include <rw/cstring.h>
class CPTCoderClass {

    private:

        RWCString text_str;
        RWCString key_str;

    public:

        void add_parse_text(char *orig, char *term) {
            text_str += term;
            text_str += " ";
        }

        void add_parse_key(int id, char *key) {
            text_str += "| ";
            ostrstream ostr;
            char *id_str;
            ostr << id << ends;
            id_str = ostr.str();
            key_str += id_str;
            key_str += key;
            key_str += " ";
            delete id_str;
        }

        void parse_procedure(void) {
            cout << text_str << endl;
            cout << key_str << endl;
        }
};
#endif
```

```

        text_str = "";
        key_str = "";
    }

    void set_admit(void) { }
    void set_pa(void) { }
    void set_xray_confirm(void) { }
    void set_xray_disconfirm(void) { }
    void add_break(void) { }
    void add_parse_negation(void) { text_str += "NEG "; }
    void add_parse_instruct(void) { text_str += "INS "; }
    void add_parse_loc(int loc) { text_str += "LOC "; }
    void add_parse_ordinal(int ord) { text_str += "ORD "; }
    void add_parse_severity(int sev) { text_str += "SEV "; }
    void add_parse_cardinal(double card) { text_str += "CARD "; }
    void add_parse_size(double size) { text_str += "SIZE"; }
    void add_parse_size_scale(int size) { text_str += "SIZE_SCALE"; }

    void add_parse_temp_cardinal(double card) { text_str += "TEMP_CARD
"; }
    void add_parse_temp_rel(int rel) { text_str += "TEMP_REL "; }
    void add_parse_temp_scale(int scale) { text_str += "TEMP_SCALE "; }

    void add_parse_bodysurf_cardinal(double card) { text_str +=
"BODY_CARD "; }
    void add_parse_bodysurf_rel(int rel) { text_str += "BODY_REL "; }

    void add_parse_probability(int prob) { text_str += "PROB "; }
    void add_parse_evidence(int evid) { text_str += "EVID "; }
    void add_parse_diag_ordinality(int ord) { text_str += "DIAG_ORD "; }
    void add_parse_status(int stat) { text_str += "STAT "; }
    void add_parse_etiology(int eti) { text_str += "ETI "; }
    void add_parse_diagnostic(int diag) { text_str += "DIAG "; }

    CPTCoderClass(): text_str(""), key_str("") {
    }

    ~CPTCoderClass() {
        cout << text_str << endl;
        cout << key_str << endl;
    }
};
#endif

#ifndef LEXER
#include "ccoder.h"
#include "cparse_item.h"
#undef ECHO
#define ECHO 1
#undef YY_INPUT
#define YY_INPUT(buf,result,max_size) \
    CPTCoder.code_lexer.get(buf, max_size, EOF); \
    result = CPTCoder.code_lexer.gcount(); \
    CPTCoder.code_lexer.accumulate(result);
#endif

extern CPTCoderClass CPTCoder;

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```

extern int yylex();
int yy_temporal = 0;
int yy_bodysurf = 0;
int yy_measure = 0;
%}

SP          ([ ]+)
DISCARD     (the|a|his|her|["]) {SP}

DISCHARGE   ((not{SP}(be{SP}|being{SP}))?|no{SP}|\\
(request(ing|ed|s)?{SP})) (admit|admitted|admitting|admission))
SENT        (was{SP}|will({SP}be){SP})?\\
(sent|send|take|taken|took|move|moved|moving) ({SP}(by|to|for|into{SP}))
?
ADMIT       (was{SP}|will({SP}be){SP})?(admit|admitted|admitting|admission) (
{SP}\\
(by|to|for|into{SP}))?
SURGERY     ({SENT}|{ADMIT})surgery
FIELD_WORK  ((in|at){SP}(the{SP})?\\
(field|ambulance|life{SP}flight|helicopter|police{SP}car|squad{SP}car|n
ursing{SP}home)|\\
(by{SP})?(the{SP})?(they|them|emt|ams|medics?|paramedics?|rescue{SP}squ
ad|ambulance)|\\
before{SP}arriv(al|ing))
DOCTOR      (neurologist|orthopod|ortho(pod|pedic)?{SP}\\
(surge(ry|on)|team|tech(nicians)?|technicians?))
PHY_ASST    (PA|physician'?s){SP}assistant|p{SP}\\.{SP}a{SP}\\.
RAD_READ1   (radiolog(ist|y){SP}(read|interpret(ed)?|(per|read|interpret(ed)
){SP}\\
(as{SP}negative{SP})?((by|of){SP})?(the{SP})?radiolog(ist|y))
RAD_READ2   ((per|read|interpret(ed)){SP}as{SP}negative{SP}for{SP}((fracture
{SP}\\
(and|or){SP}dislocate{SP})|(fracture{SP})|(dislocate{SP}))((by|of){SP})
?(the{SP})?\\
radiolog(ist|y))
ED_READ1    (radiolog(ist|y){SP}((was|is){SP})?(off{SP}duty|not{SP}available|
\\
unavailable|not{SP}on{SP}duty)|(not?[
]radiolo)|radiolog(y|ist){SP}(was{SP})?(not|un))
ED_READ2    ((E\\. ?{SP}?[DR]\\. ?{SP}physician|emergency{SP}department{SP}physic
ian|I)\\
{SP}(read|interpret(ed)?|(per|read|interpret(ed)){SP}((by|of){SP})?(t
he{SP})?\\
(E\\. ?{SP}?[DR]\\. ?{SP}physician|emergency{SP}department{SP}physician|me|
myself))
SELF        (I{SP}|I{SP},|me{SP}|by{SP}me|myself|by{SP}myself|I{SP}myself)
PLAN        (plan:|plan{SP}|plan{SP}to|plan{SP}is{SP}to|\\
may{SP}be{SP}necessary|may{SP}be{SP}needed|may{SP}(ultimately|eventually
y|\\
some[ ]?day|some[
]?time){SP}be{SP}necessary|may{SP}(ultimately|eventually|\\

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some[]?day|some[]?time){SP}be{SP}needed)
 CONSIDER
 (considered{SP}|consider{SP}|consideration{SP}|deemed{SP}|\|
 deem{SP}|discuss{SP}|discussed{SP}|discussion{SP})
 CANCEL
 (cancelled{SP}|cancel{SP}|cancell?ing{SP}|discontinued?{SP})
 REFUSE
 (refused{SP}|refusing{SP}|refuses{SP}|refuse{SP})
 WILL
 (will{SP})

PATIENT
 (she{SP}|he{SP})

POSSIBLE_11 ("unable to altogether rule out"|\|
 "unable to completely rule out"|"can not rule out"|"cannot rule out"|\|
 "cannot altogether exclude"|"cannot completely exclude"|"can not
 exclude"|\|
 "could also be"|"could be"|"evidence
 of"|"possible"|"possibly"|"questionably"|\|
 "questionable"|"question"|"suspect"|"doubt")
 POSSIBLE_10 ("suspected")
 POSSIBLE_01 ("doubtful"|"doubted")
 PROBABLE_11 ("probable"|"probably"|"likely"|"clearly")
 PROBABLE_10 ("apparent")

RULE_OUT_11 ("rule out"|"no evidence of")
 RULE_OUT_10 ("unfounded")

RISK_OF_11 ("low risk for"|"low risk of"|"at-risk for"|"at risk
 for"|"at-risk of"|"at risk of"|"risk of")

VS_0011 ("vs. "|"vs "|"versus"|"verses")

NOT_IN_ER_01 (no(t|ne)?[]eviden(t|ce(d)?[]in[
](emergency|ER)\|
 [](room|department|dept(\.)?))

EVIDENCED_11 ("evidenced")
 EVIDENCE_01 ("evidence ")
 ALLEGED_00 ("alleged by patient"|"per patient"|"by patient")
 ALLEGED_11 ("patient alleged"|"alleged"|"patient
 alleges"|"alleges"|\|
 "allege "|"patient also reports"|"patient also reported"|"patient
 reports"|\|
 "patient reported"|"patient also states"|"patient also stated"|"patient
 states"|\|
 "patient stated"|"stated "|"reported ")
 ATTEMPT (attempt(ed[]to[])?)
 DENIED_00 ("denied by patient")
 DENIED_11 ("patient denied"|"denied"|"patient
 denies"|"denies"|"deny")

STATUS_POST_11 ("status post")
 POST_11 ("post "|"following"|"after")
 HISTORY_OF_11 ("history of"|"historic"|"history")
 HISTORY_OF_00 ("by history"|"in the past")
 OLD_11 ("old "|"previous ")


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[ ]{ETIOLOGY}|uncertain[ ]{ETIOLOGY}|of[ ]uncertain[ ]{ETIOLOGY})
ETIOLOGY_10      ("etiology"|"in etiology")
ORIGIN_00        ("in origin")
ORIGIN_01        ("origin"|"due to")
NATURE_00        ("in nature")

. DRUG_SCREEN_11      ("drug screen")
  ACCU_CHECK_11       ("accu-check")
  VDRL_11            ("vdrl")

RIGHT_1          ("right")
LEFT_1           ("left")
BOTH_1           ("both")
BILATERAL_1      ("bilateral")

AVOID__11        ("avoid")
CONSULTATION__01 ("consultation")
CONSULT__11      ("consult"|"consulted")
FOLLOWING_UP__1  (following([ ]|-)up)
FOLLOW_UP__01    ((follow-up|follow[
]up|followup|f\|u|F\|U|recheck|return) [ ]([ ^i] [a-z\ -]+[
]) {0,5} (in|next) [ ] )
RECHECK__11      (recheck[ ] (if|after|when|next|in|with|on))
REFRAIN__11      ("refrain")
REFERRED__11      ("referred")
REFER__11        ("refer")
RETURNED__11     ("returned")
RETURN__11       ("return")
INSTRUCTED__11   ("instructing"|"instructed"|"instructed"|"instruction"|"instructions"|"
says to"|"said to"|"told"|"suggest"|"suggestion"|"suggesting")
ADMONISHED__11   ("admonished")

WITH_0011        ("associated with"|"with associated"|"with ")
NOT_11_WITH_0011 ("without"|"not with "|"with none "|"with no ")

BUT_11           ("but "|"although ")
HOWEVER_11       ("however ")

NO_01            ("none ")
NOT_10           ("not "|"never ")
NO_11           ("no ")

PERIOD_00        (\. [ \t] *\n)
PERIOD_10        (\. [ \t] +)
PUNC_10          (": " | "; ")
PUNC_11          (" , ")

DASH             (" - ")
PERCENT          ("% ")
TERM             ([ ^ , . : ; /\n\t] +)

%%

{DISCARD}      { }

{DISCHARGE} { CPTCoder.add_parse_negation(); }

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{ADMIT}      { CPTCoder.set_admit();
               CPTCoder.add_parse_negation(); }
{SURGERY}    { CPTCoder.set_admit();
               CPTCoder.add_parse_negation(); }
{FIELD_WORK} { CPTCoder.add_parse_negation(); }
{RAD_READ1}  { CPTCoder.set_xray_disconfirm();
               CPTCoder.add_parse_negation(); }
{RAD_READ2}  { CPTCoder.set_xray_disconfirm();
               CPTCoder.add_parse_negation(); }
{ED_READ1}   { CPTCoder.set_xray_confirm(); }
{ED_READ2}   { CPTCoder.set_xray_confirm(); }
{DOCTOR}     { CPTCoder.add_parse_negation(); }
{PHY_ASST}   { CPTCoder.set_pa();
               CPTCoder.add_parse_negation();
               }
{SELF}       { CPTCoder.add_parse_text((char *)yytext, "myself");
               /* need a function that will turn off a
negation set by {DOCTOR}
               and will not allow a negation to be set by
{DOCTOR} for the
               current phrase */ }
{PLAN}       { CPTCoder.add_parse_negation(); }
{CONSIDER}   { CPTCoder.add_parse_negation(); }
{CANCEL}     { CPTCoder.add_parse_negation(); }
{REFUSE}     { CPTCoder.add_parse_negation(); }
{WILL}       { CPTCoder.add_parse_negation(); }

{PATIENT}    { CPTCoder.add_parse_text((char *)yytext, "patient");
}

---T          { yy_temporal = 1; }
T---         { yy_temporal = 0; }
LT           { if (yy_temporal)
CPTCoder.add_parse_temp_rel(-1); }
JUNK         { if (yy_temporal) CPTCoder.add_parse_temp_rel(
0); }
MT           { if (yy_temporal) CPTCoder.add_parse_temp_rel(
1); }
MN           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(1); }
HR           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(2); }
DA           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(3); }
WK           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(4); }
MO           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(5); }
YR           { if (yy_temporal)
CPTCoder.add_parse_temp_scale(6); }

---S          { yy_bodysurf = 1; }
S---         { yy_bodysurf = 0; }
LT           { if (yy_bodysurf)
CPTCoder.add_parse_bodysurf_rel(-1); }
JUNK         { if (yy_bodysurf)
CPTCoder.add_parse_bodysurf_rel( 0); }

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```

MT                { if (yy_bodysurf)
CPTCoder.add_parse_bodysurf_rel( 1); }

---L              { yy_measure = 1; }
L---              { yy_measure = 0; }
MM                { if (yy_measure)
CPTCoder.add_parse_size_scale(1); }
CM                { if (yy_measure)
CPTCoder.add_parse_size_scale(2); }
IH                { if (yy_measure)
CPTCoder.add_parse_size_scale(3); }

{POSSIBLE_11}      { CPTCoder.add_parse_probability(3); }
{POSSIBLE_10}      { CPTCoder.add_parse_probability(3); }
{POSSIBLE_01}      { CPTCoder.add_parse_probability(3); }
{PROBABLE_11}      { CPTCoder.add_parse_probability(4); }
{PROBABLE_10}      { CPTCoder.add_parse_probability(4); }
{RULE_OUT_11}      { CPTCoder.add_parse_probability(1); }
{RULE_OUT_10}      { CPTCoder.add_parse_probability(1); }

{RISK_OF_11}       { CPTCoder.add_parse_probability(2); }

{VS_0011}          { CPTCoder.add_parse_key(VS, "_0011_");
                    CPTCoder.add_parse_probability(1); }

{NOT_IN_ER_01}     { CPTCoder.add_parse_evidence(2); }

{EVIDENCED_11}     { CPTCoder.add_parse_evidence(4); }
{EVIDENCE_01}      { CPTCoder.add_parse_evidence(4); }
{ALLEGED_00}       { CPTCoder.add_parse_evidence(3); }
{ALLEGED_11}       { CPTCoder.add_parse_evidence(3); }
{ATTEMPT}          { CPTCoder.add_parse_text((char *)yytext, "attempt");
                    CPTCoder.add_parse_negation();
                    /* dth - added 3/11/98 */ }

{DENIED_00}        { CPTCoder.add_parse_evidence(1);
                    CPTCoder.add_parse_negation(); }
{DENIED_11}        { CPTCoder.add_parse_evidence(1);
                    CPTCoder.add_parse_negation(); }

{STATUS_POST_11}   { CPTCoder.add_parse_text((char *)yytext, "status
post");
                    CPTCoder.add_parse_negation();
                    /* dth - negated on 3/11/98 */ }
{POST_11}          { CPTCoder.add_parse_text((char *)yytext, "post"); }
{HISTORY_OF_11}    { CPTCoder.add_parse_negation(); }
{HISTORY_OF_00}    { CPTCoder.add_parse_negation(); }
{OLD_11}           { CPTCoder.add_parse_key(NO, "_01_");
                    CPTCoder.add_parse_text((char *)yytext,
"no");
                    CPTCoder.add_parse_negation(); }

{SECONDARY_TO}     { CPTCoder.add_parse_diag_ordinality(2);
                    CPTCoder.add_parse_negation();
                    CPTCoder.add_parse_key(PERIOD, "_10_"); }
{SECONDARY_00}     { CPTCoder.add_parse_text((char *)yytext,
"secondary");
                    CPTCoder.add_parse_negation();

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CPTCoder.add_parse_diag_ordinality(2);
CPTCoder.add_parse_key(PERIOD, "_10_"); }
{ SECONDARY_11}
"secondary");

CPTCoder.add_parse_negation();
CPTCoder.add_parse_diag_ordinality(2); }
{ PRIMARY_11}
"primary");

CPTCoder.add_parse_diag_ordinality(1);
CPTCoder.add_parse_severity(2); }
{ ACUTE_11}
{ CPTCoder.add_parse_text((char *)yytext, "acute");
CPTCoder.add_parse_severity(1); }
{ CHRONIC_11}
{ CPTCoder.add_parse_text((char *)yytext,
"chronic");

CPTCoder.add_parse_severity(3); }
{ EPISODIC_11}
{ CPTCoder.add_parse_text((char *)yytext,
"episodic");

CPTCoder.add_parse_severity(4); }

{ FIRST_11}
{ CPTCoder.add_parse_text((char *)yytext, "first");
CPTCoder.add_parse_ordinal(1); }
{ SECOND_11}
{ CPTCoder.add_parse_text((char *)yytext, "second");
CPTCoder.add_parse_ordinal(2); }
{ THIRD_11}
{ CPTCoder.add_parse_text((char *)yytext, "third");
CPTCoder.add_parse_ordinal(3); }
{ FOURTH_11}
{ CPTCoder.add_parse_text((char *)yytext, "fourth");
CPTCoder.add_parse_ordinal(4); }
{ FIFTH_11}
{ CPTCoder.add_parse_text((char *)yytext, "fifth");
CPTCoder.add_parse_ordinal(5); }
{ SIXTH_11}
{ CPTCoder.add_parse_text((char *)yytext, "sixth");
CPTCoder.add_parse_ordinal(6); }
{ SEVENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"seventh");

CPTCoder.add_parse_ordinal(7); }
{ EIGHTH_11}
{ CPTCoder.add_parse_text((char *)yytext, "eighth");
CPTCoder.add_parse_ordinal(8); }
{ NINETH_11}
{ CPTCoder.add_parse_text((char *)yytext, "nineth");
CPTCoder.add_parse_ordinal(9); }
{ TENTH_11}
{ CPTCoder.add_parse_text((char *)yytext, "tenth");
CPTCoder.add_parse_ordinal(10); }
{ ELEVENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"eleventh");

CPTCoder.add_parse_ordinal(11); }
{ TWELVETH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"twelveth");

CPTCoder.add_parse_ordinal(12); }
{ THIRTEENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"thirteenth");

CPTCoder.add_parse_ordinal(13); }
{ FOURTEENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"fourteenth");

CPTCoder.add_parse_ordinal(14); }
{ FIFTEENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"fifteenth");

CPTCoder.add_parse_ordinal(15); }
{ SIXTEENTH_11}
{ CPTCoder.add_parse_text((char *)yytext,
"sixteenth");

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CPTCoder.add_parse_ordinal(16); }

{HEALING_00}          { CPTCoder.add_parse_status(101); }
{HEALED_00}           { CPTCoder.add_parse_status(111); }
{IMPROVING_00}        { CPTCoder.add_parse_status(102); }
{IMPROVED_01}         { CPTCoder.add_parse_status(112); }
{RESOLVING_00}        { CPTCoder.add_parse_status(103); }
{RESOLVED_00}         { CPTCoder.add_parse_status(113); }
{INDUCED_11}          { CPTCoder.add_parse_text((char *)yytext,
"induced");

CPTCoder.add_parse_status(6); }
{SIMPLE_REPAIR_01}    { CPTCoder.add_parse_text((char *)yytext,
"repair");

CPTCoder.add_parse_status(5); }
{REPAIRED_01}         { CPTCoder.add_parse_text((char *)yytext,
"repaired");

CPTCoder.add_parse_status(5); }
{REPAIRING_01}        { CPTCoder.add_parse_text((char *)yytext,
"repairing");

CPTCoder.add_parse_status(114); }
{REPAIR_01}           { CPTCoder.add_parse_text((char *)yytext, "repair");
CPTCoder.add_parse_status(5); }
{REDUCED_01}          { CPTCoder.add_parse_text((char *)yytext,
"reduced");

CPTCoder.add_parse_status(4); }
{REDUCING_01}         { CPTCoder.add_parse_text((char *)yytext,
"reducing");

CPTCoder.add_parse_status(115); }
{REMOVED_10}          { CPTCoder.add_parse_text((char *)yytext,
"removed");

CPTCoder.add_parse_status(3); }
{UNTREATED_01}        { CPTCoder.add_parse_status(1); }
{TREATED_WITH_0011}   { CPTCoder.add_parse_text((char *)yytext,
"treated with");

CPTCoder.add_parse_status(2); }
{TREATED_01}          { CPTCoder.add_parse_status(2); }
{UNSUCCESSFUL_10}     { CPTCoder.add_parse_status(1); }

{ETIOLOGY_UNCERTAIN_01} { CPTCoder.add_parse_etiology(1); }
{ETIOLOGY_10}         { CPTCoder.add_parse_etiology(2); }
{ORIGIN_00}           { CPTCoder.add_parse_etiology(3); }
{ORIGIN_01}           { CPTCoder.add_parse_etiology(3); }
{NATURE_00}           { CPTCoder.add_parse_etiology(4); }

{DRUG_SCREEN_11}      { CPTCoder.add_parse_diagnostic(1);
CPTCoder.add_parse_text((char *)yytext,
"drug_screen"); }
{ACCU_CHECK_11}       { CPTCoder.add_parse_diagnostic(1);
CPTCoder.add_parse_text((char *)yytext,
"accu_check"); }
{VDRL_11}             { CPTCoder.add_parse_diagnostic(1);
CPTCoder.add_parse_text((char *)yytext,
"vrdl"); }

{RIGHT_1}             { CPTCoder.add_parse_loc(1); }
{LEFT_1}              { CPTCoder.add_parse_loc(0); }
{BOTH_1}              { CPTCoder.add_parse_text((char *)yytext, "both");

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        CPTCoder.add_parse_loc(2); }
{BILATERAL__1}      { CPTCoder.add_parse_text((char *)yytext,
"bilateral");

        CPTCoder.add_parse_loc(2); }

{AVOID__11}      { CPTCoder.add_parse_text((char *)yytext, "avoid");
        CPTCoder.add_parse_instruct(); }
{CONSULTATION__01}      { CPTCoder.add_parse_text((char *)yytext,
"consultation");
        CPTCoder.add_parse_instruct(); }
{CONSULT__11}      { CPTCoder.add_parse_text((char *)yytext,
"consult");
        CPTCoder.add_parse_instruct(); }
{FOLLOWING_UP__1} { CPTCoder.add_parse_text((char *)yytext, "following-
up");
        CPTCoder.add_parse_instruct(); }
{FOLLOW_UP__01}      { CPTCoder.add_parse_text((char *)yytext,
"__follow-up");
        CPTCoder.add_parse_negation();
        CPTCoder.add_parse_instruct(); }
{RECHECK__11}      { CPTCoder.add_parse_text((char *)yytext,
"__recheck");
        CPTCoder.add_parse_negation();
        CPTCoder.add_parse_instruct(); }
{REFRAIN__11}      { CPTCoder.add_parse_text((char *)yytext,
"refrain");
        CPTCoder.add_parse_instruct(); }
{REFERRED__11}      { CPTCoder.add_parse_text((char *)yytext,
"referred");
        CPTCoder.add_parse_instruct(); }
{REFER__11}      { CPTCoder.add_parse_text((char *)yytext, "refer");
        CPTCoder.add_parse_instruct(); }
{RETURNED__11}      { CPTCoder.add_parse_text((char *)yytext,
"returned");
        CPTCoder.add_parse_instruct(); }
{RETURN__11}      { CPTCoder.add_parse_text((char *)yytext,
"return");
        CPTCoder.add_parse_instruct(); }
{INSTRUCTED__11} { CPTCoder.add_parse_text((char *)yytext,
"instruct");
        CPTCoder.add_parse_instruct(); }
{ADMONISHED__11} { CPTCoder.add_parse_text((char *)yytext,
"admonished");
        CPTCoder.add_parse_instruct(); }

{NOT__11_WITH__0011}      { CPTCoder.add_parse_key(NO, "__11__");
        CPTCoder.add_parse_text((char *)yytext, "not
with");
        CPTCoder.add_parse_negation(); }
{BUT__11}      { CPTCoder.add_parse_key(BUT, "__11__"); }
{HOWEVER__11}      { CPTCoder.add_parse_key(HOWEVER, "__11__"); }

{NO__01}      { CPTCoder.add_parse_text((char *)yytext,
"no");
        CPTCoder.add_parse_key(NO, "__01__");
        CPTCoder.add_parse_text((char *)yytext,
"no");

```

```

        CPTCoder.add_parse_negation(); }
{NOT_10}      { CPTCoder.add_parse_text((char *)yytext, "not");
                CPTCoder.add_parse_key(NO, "_10_");
                CPTCoder.add_parse_text((char *)yytext,
"not");
                CPTCoder.add_parse_negation(); }
{NO_11}      { CPTCoder.add_parse_text((char *)yytext,
"no");
                CPTCoder.add_parse_key(NO, "_11_");
                CPTCoder.add_parse_text((char *)yytext,
"no");
                CPTCoder.add_parse_negation(); }

{PERIOD_00}   { CPTCoder.add_parse_key(PERIOD, "_00_");
                CPTCoder.add_break(); }
{PERIOD_10}   { CPTCoder.add_parse_key(PERIOD, "_10_");
                CPTCoder.add_break(); }
{PUNC_10}     { CPTCoder.add_parse_key(PUNC, "_10_"); }
{PUNC_11}     { }

[\\n]+        { }
[ \\t]+       { }
{DASH}        { }
{PERCENT}     { CPTCoder.add_parse_text((char *)yytext, "percent");
}
{NUMBER}      { if (yy_temporal) {
CPTCoder.add_parse_temp_cardinal(atof((char *)yytext));
                }
                else if (yy_bodysurf) {
CPTCoder.add_parse_bodysurf_cardinal(atof((char *)yytext));
                }
                else if (yy_measure) {
                    CPTCoder.add_parse_size(atof((char
*)yytext));
                }
                else {
                    CPTCoder.add_parse_cardinal(atof((char
*)yytext));
                    CPTCoder.add_parse_text((char *)yytext,
(char *)yytext);
                }
                }
{TERM}        { CPTCoder.add_parse_text((char *)yytext, (char
*)yytext); }
EOT           {
#ifdef LEXER
                CPTCoder.parse_procedure();
#endif
            }

%%

int yyposition() { return (strlen((char *)YY_CURRENT_BUFFER-
>yy_buf_pos)); }

```

```

#ifdef LEXER
CPTCoderClass CPTCoder;

int
main(int argc, char* argv[]) {
    return yylex();
}
#endif

```